

Press Release

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IHP technology ready for space flights European Space Agency ESA approves SiGe BiCMOS technology

Frankfurt (Oder). With the listing of IHP – Innovations for High Performance Microelectronics on the European Preferred Parts List (EPPL), an important development period at the institute has been successfully completed. The listing has been carried out as part of an evaluation by the European Space Agency (ESA). The EPPL list is an important instrument of ESA including all preferred and suitable components provided by European manufacturers of space hardware and related equipment and now confirms the space capability of SiGe BiCMOS technology. Here silicon germanium bipolar transistors developed at IHP are especially radiation hard compared to standard CMOS transistors.

The evaluated technology SGB25RH is based on the industry proven SBG25V process and was developed and tested together with partner companies over many years by scientists from IHP. The evaluation of this mature technology has been carried out within a project funded by the German Aerospace Center (DLR) and now approved by the ESA. A particular challenge was the development of radiation-hard components that withstand the particularly difficult environment of space. This also includes the development of the modules that can withstand the so called “single event effects”, which are effects that can be triggered in semiconductor devices by the influence of particles of ionizing radiation.

At the moment, further technologies of IHP are in preparation for space evaluation.



The IHP technology SGB25RH has been certified by the European Space Agency.

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Further Information:

EPPL: <https://escies.org/webdocument/showArticle?id=166>

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About IHP:

The IHP is an institute of the Leibniz Association and conducts research and development of silicon-based systems and ultrahigh frequency circuits and technologies including new materials. It develops innovative solutions for application areas such as wireless and broadband communication, security, medical technology, industry 4.0, automotive industry, and aerospace. The IHP employs approximately 300 people. It operates a pilot line for technological developments and the preparation of high-speed circuits with 0.13/0.25 μm BiCMOS technologies, located in a 1000 m² class 1 cleanroom.

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